



# the modula wave<sup>®</sup>



reddot design award  
honourable mention 2009

## innovation made in Switzerland

- 2011 Move to a new location with showroom and laboratory
- 2010 Setup of the Centre of Excellence in Penang/Malaysia for the Asian market
- 2010 Kirsten strengthened its technical support and increased the applications laboratory
- 2009 **the modula wave**<sup>®</sup> receives the “red dot award: product design 2009”
- 2008 **the modula wave**<sup>®</sup> with **visko** user interface is introduced to the market
- 2006 Kirsten starts development & design on **the modula wave**<sup>®</sup>
- 2006 Incorporation of Kirsten Soldering in the Swiss Future Finance Holding
- 2004 The 2000th Kirsten **jet wave** system is delivered
- 2001 Partnership with Air Liquide for K-IN2ERTWAVE™
- 2001 Foundation of Kirsten Soldering AG, Switzerland
- 1992 First Lead-free Wave Soldering Solution delivered - Pioneers in Lead-free Soldering
- 1979 First Kirsten patent: The electromagnetic **jet wave** solder pump



reddot design award  
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## Kirsten – the team



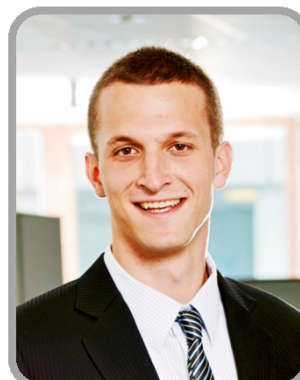
**Pius Eberhard**  
CEO



**Jürgen Seibert**  
Product Management



**Bruno Christen**  
Sales



**Marcel Steiger**  
Technical Support



**Vinzenz Bissig**  
Applications Laboratory



**Thomas Frey**  
Research&Development

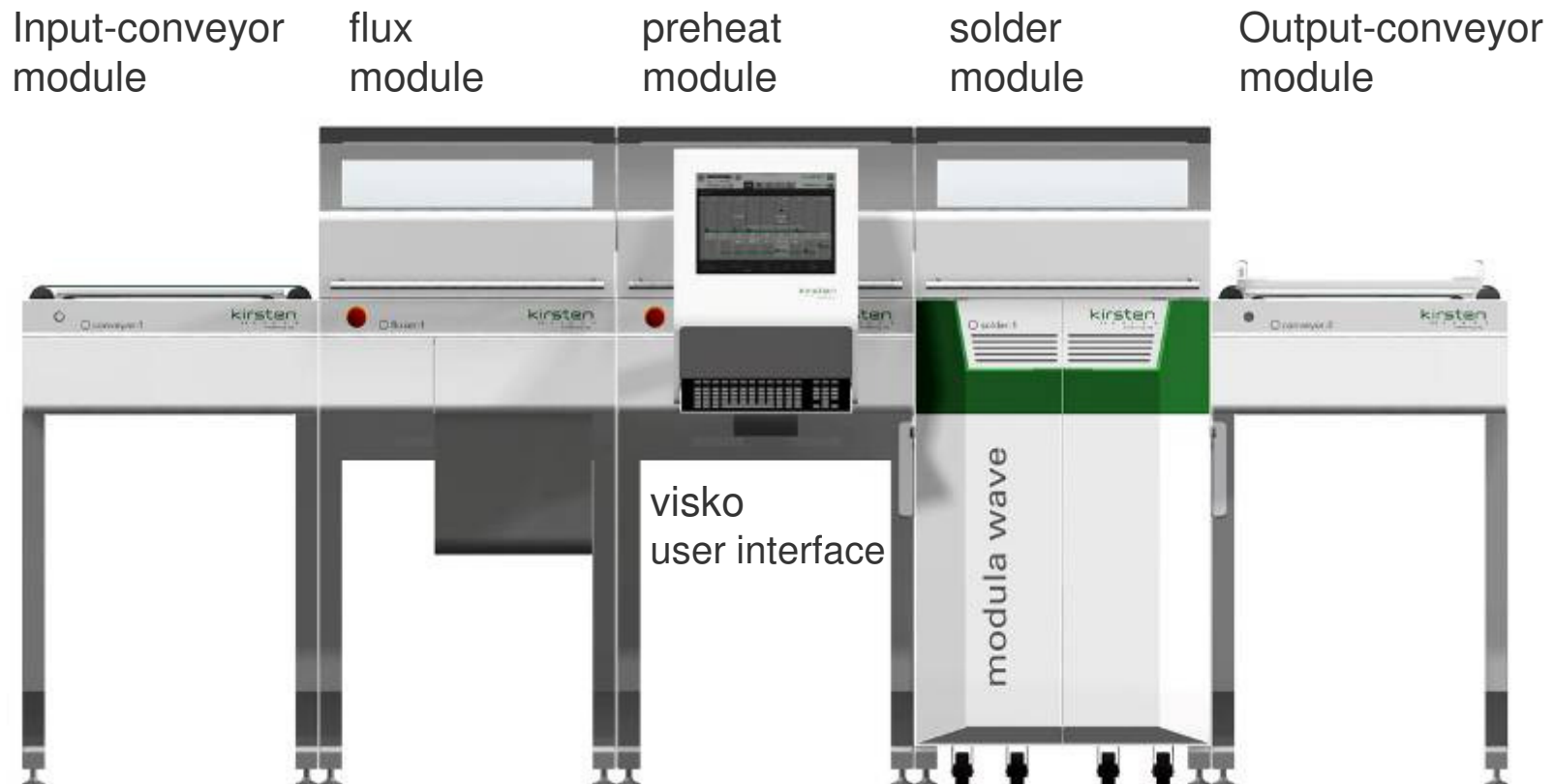
## the modula wave®



**the modular solder solution  
that meets your expectations**

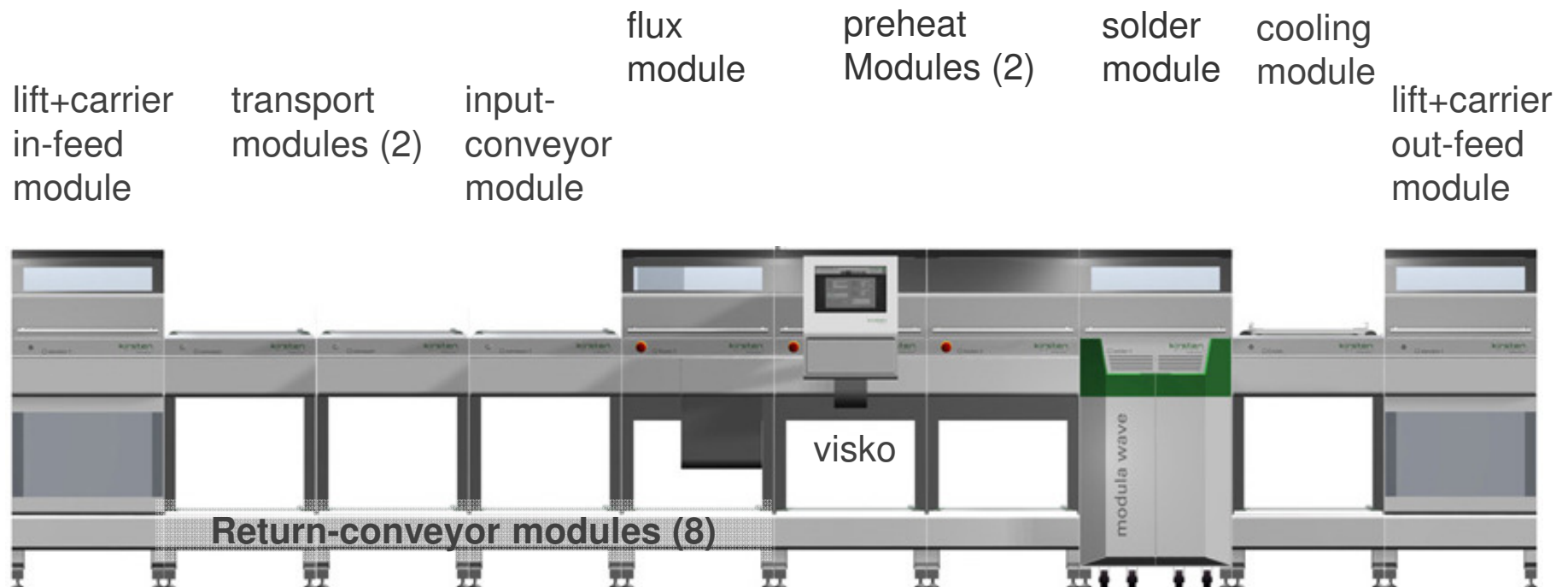
# the modula wave<sup>®</sup> - a minimum configuration

PCBs: Horizontal at all times!



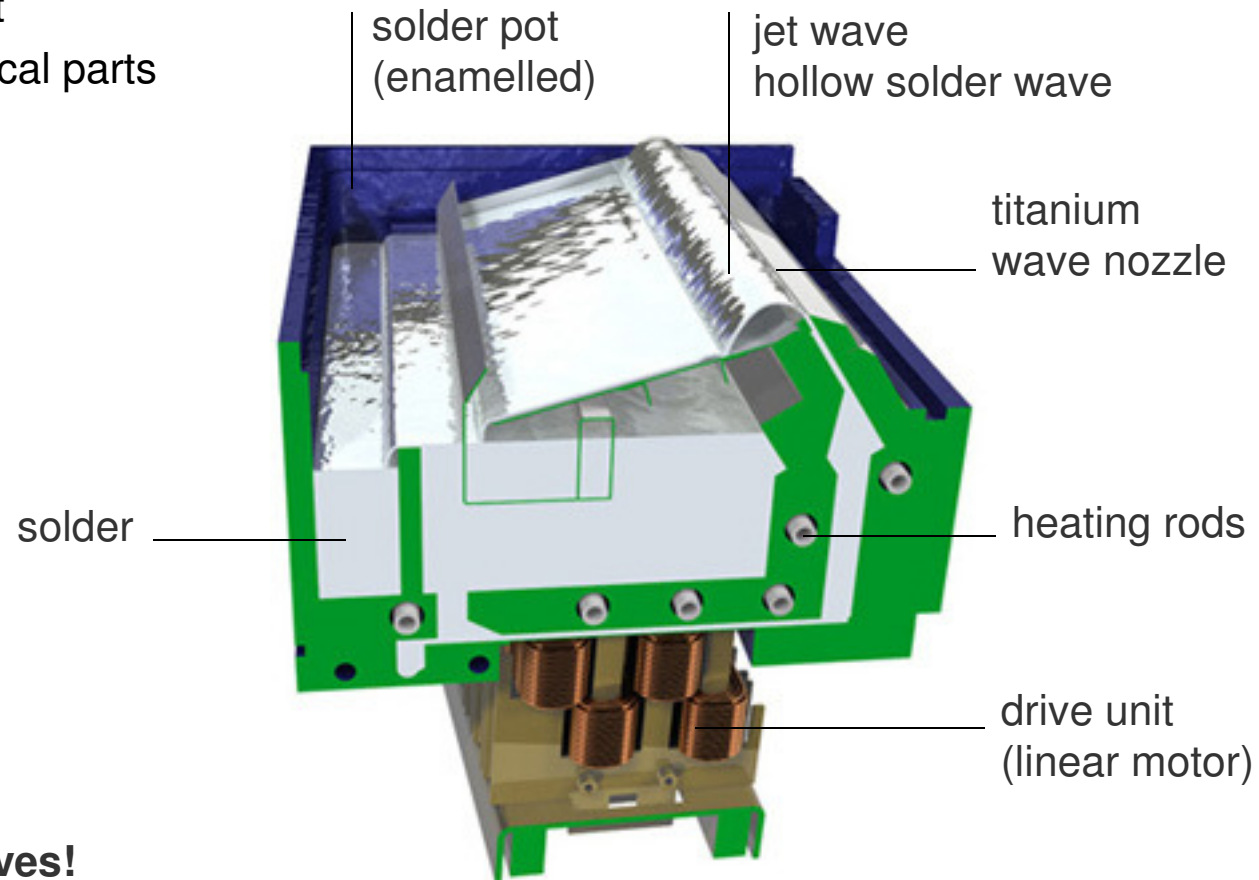
# the modula wave<sup>®</sup> - a typical configuration

PCBs: Horizontal at all times!



## jet wave - the hollow solder wave

Unique pump without  
any moving mechanical parts



**Only the solder moves!**

## advantage in production

- short wetting time – lowest thermal stress for the components
- high wave speed – increased joint quality
- highest thermal energy transfer of all solder wave systems
- single wave / short high temperature peak – kind to sensitive components
- process dwell steps are infinitely variable
- total flexibility in setting the process window
- hold-down clamps of components are unnecessary
- high flexibility – suits batch of size 1 *or* high-mix *or* high volume
- improved inert environment

## the modula wave®



**this concept offers unique flexibility:  
solder module fix  
solder module quick-change cart**

## the modula wave<sup>®</sup> system

the affordable entry-level system meets those demands satisfied with a basic solder system operating in the manufacturing process

process-related solder wave settings can be made either manually or via program control, depending on the specification



- for basic demands
- to be upgraded anytime

Fixed  
solder module



## two fixed solder modules in-line

with two fixed solder modules  
in a row for simultaneous handling  
of different solders e.g.  
leaded or lead-free solder,  
in a single production line

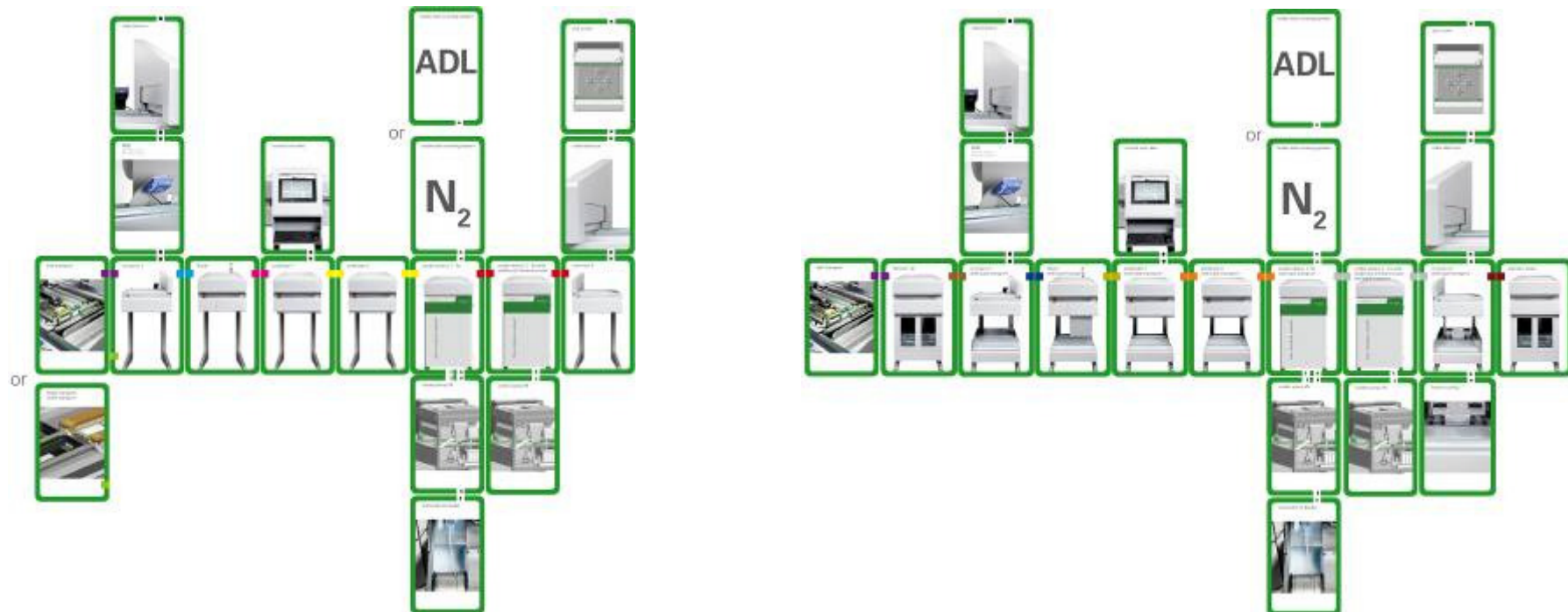


Hot swap pots  
in-line



- for high-mix
- for high flexibility

## configurations with fixed solder modules



## the modula wave<sup>®</sup> with quick-change solder cart

easy removable solder carts on castors  
store the solder module in the docking station  
different solders for different processes

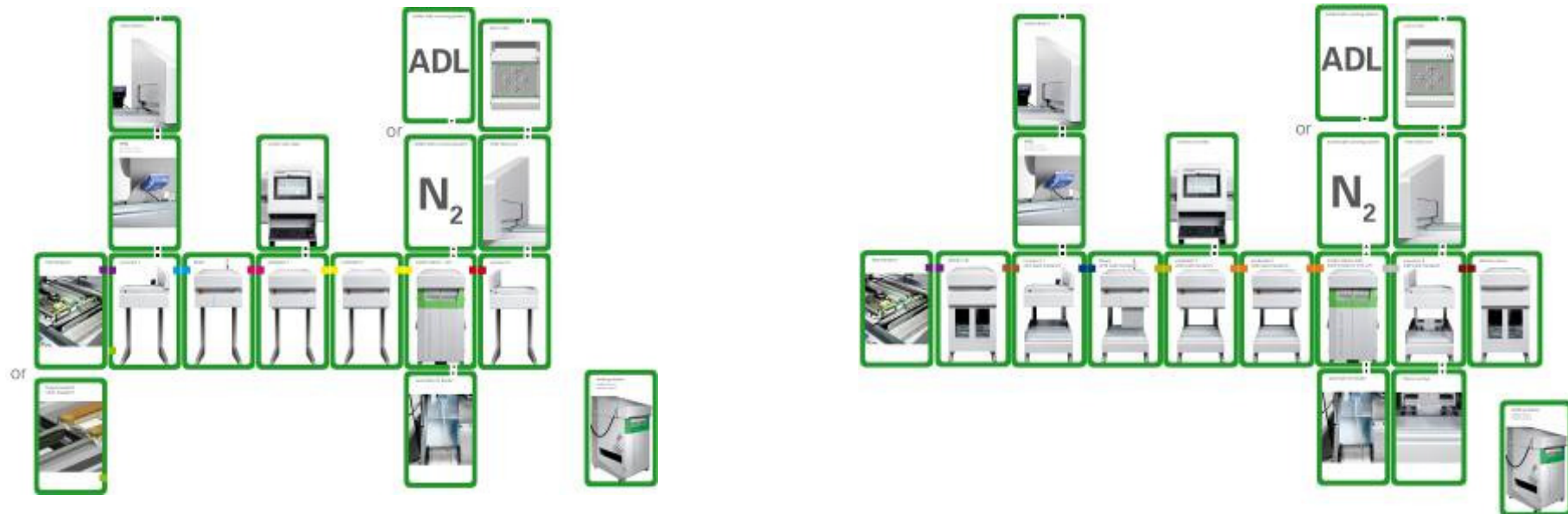


- **For high-volume**
- **very short changeover time**
- **operator's safety enhanced**
- **minimum maintenance**
- **maintain factory cleanliness**

DOCKING  
Station



## configurations with quick-change solder cart



## the modula wave<sup>®</sup>



**visko - user interface**  
**the visualisation and control unit**

## visko – user interface



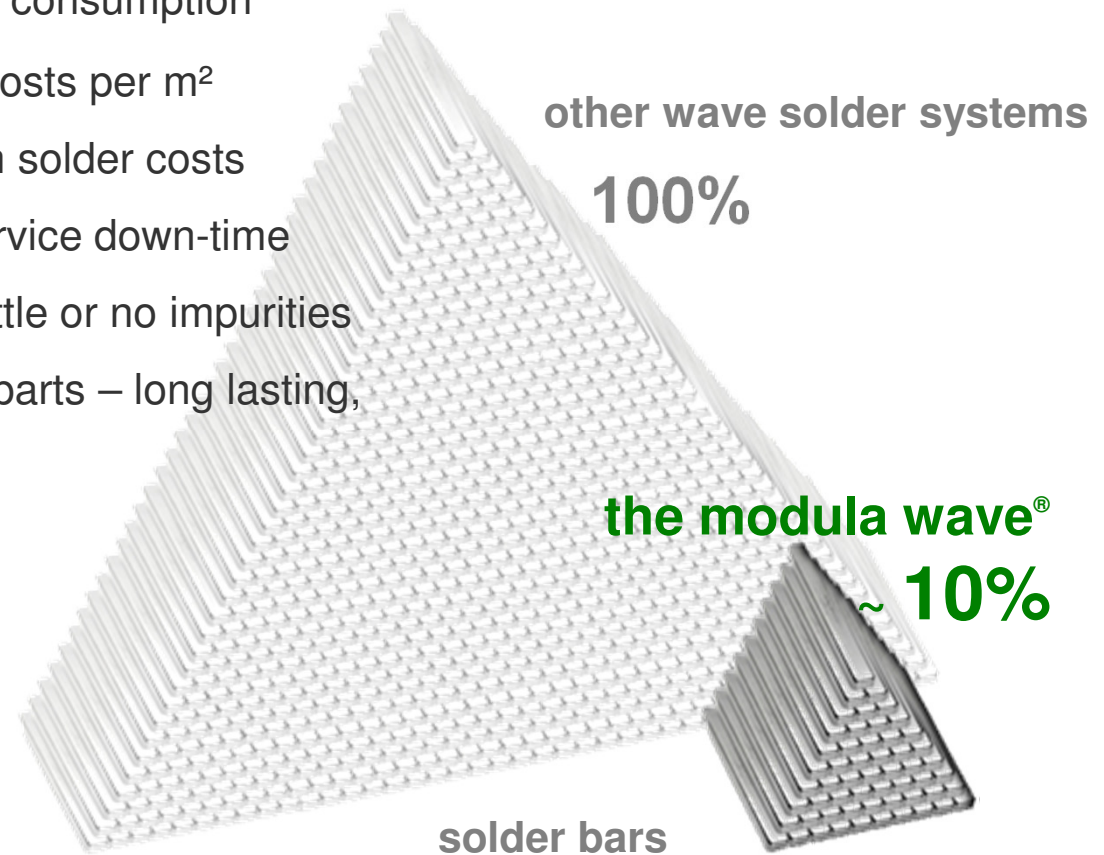
via **visko** the transport speed can be optimized in each module to provide total process control.

The screenshot shows the following data in the summary sections:

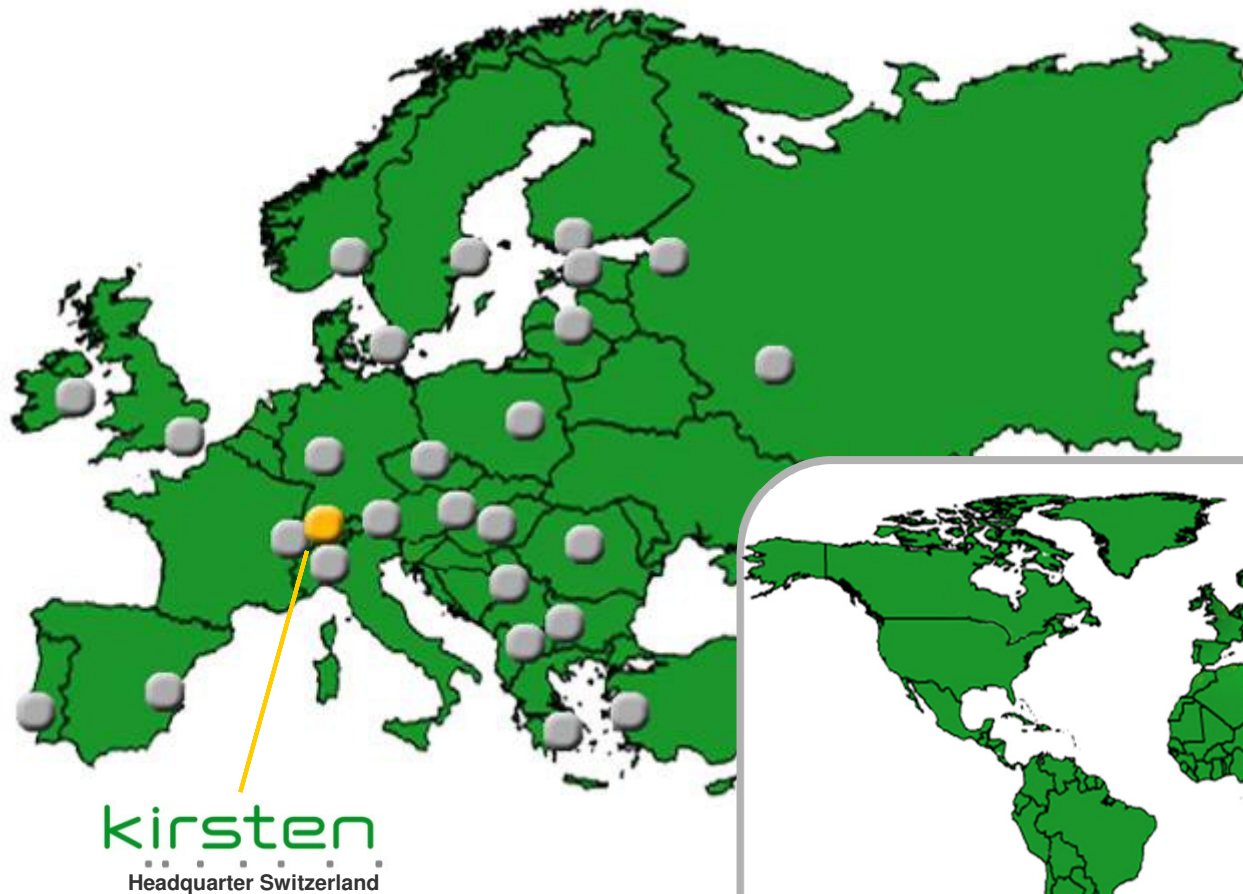
Informations		Last Proc. Time		Operation hours			Maintenance		
# Frames Job	10	Avg. Proc. Time	3 min	Machine	4 h	Fluxer	3 h	Daily	20 h
# Frames Total	10	Last Proc. Time	3 min	Elevator	3 h	Preheater	3 h	Weekly	76 h
Frames/hour	24			Conveyor	2 h	Preheater	3 h	Monthly	396 h
				Conveyor 1	2 h	Solder 1	3 h	Yearly	1196 h

## low operational costs

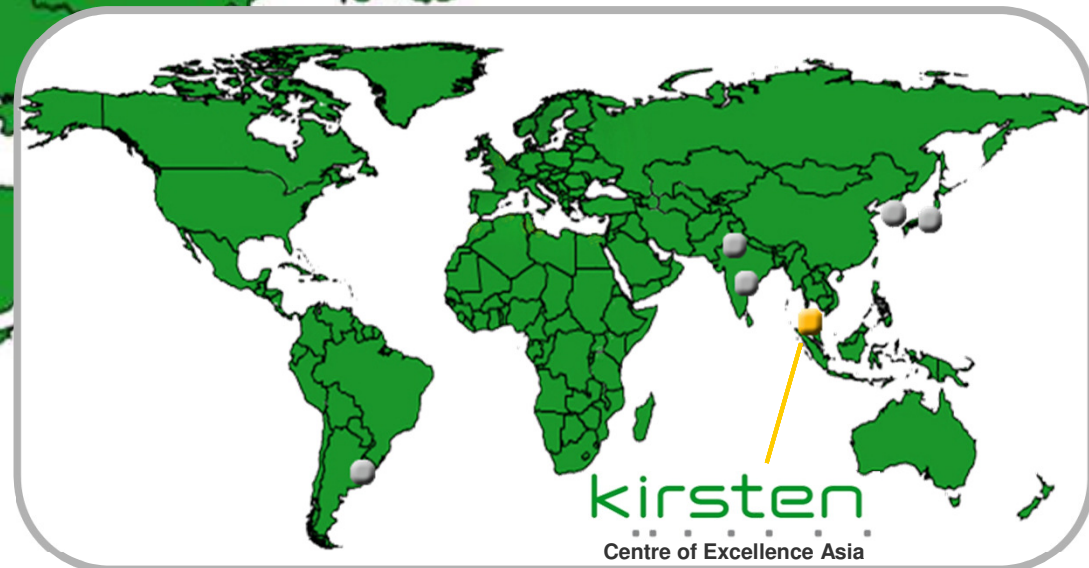
- energy friendly – optimises energy consumption
- compact design – minimum area costs per m<sup>2</sup>
- smallest soldering bath – minimum solder costs
- short warm-up time – minimum service down-time
- quick and clean solder change – little or no impurities
- pump without moving mechanical parts – long lasting, minimum maintenance



## Kirsten in Europe



worldwide





# the modula wave<sup>®</sup>



**Thank you!**



# the modula wave®

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